

Having been involved over the last several months with the multi-donor group which prepared material on avoided deforestation as a carbon trade option for use by the Indonesian Government at the recent COP 13 meeting in Bali, I wish to raise the issue of avoided deforestation as an option in Australia's approach to net reduction of GHG emissions. As I see it, there is potentially a strong confluence of interest between Australia and Indonesia on this subject, and the result could be realized at a scale far larger than, say, the carbon implications of investment in plantation forests or other land-based sequestering options within Australia (a subject which has attracted a deal of interest as the climate change issue has begun to take hold in this country).

I have been involved with the forests sector in Indonesia for a number of years, especially when in the position of Forests Advisor in the World Bank; a position I left in 2004. I am now at ANU; as a Visiting Fellow in the Fenner School, and in that position I have continued my interest in the climate change issue, which I first began work on while with the Bank.

In the past, the real perception in Indonesia has been that the benefits of conversion of natural forests, or even just their degradation through over-logging, have exceeded those associated with sustainable forest management. Arguments on the environmental and biodiversity benefits of retaining forests, and the possibly damaging externalities of conversion and degradation, have not prevailed at the official level. Many observers have attributed this outcome to the opportunities high levels of forest utilization, and then conversion of the previously forested sites, have provided for the corruption and opportunism that is rife in the sector in Indonesia. My view is that while corruption undoubtedly has re-directed the benefits of exploitation of the forests and contributed to poor economic development performance overall, it is a symptom of the values actually placed at official levels in that country on forests, not a cause. This is not something that will be apparent from the rhetoric senior Indonesian politicians and government officials apply to natural forests, but it is the underlying reality.

Trading avoided deforestation as a carbon emissions offset in Indonesia could change all that. The figure that I and international and Indonesian colleagues developed during the course of the studies prepared for the Government of Indonesia on reduced deforestation and degradation (REDD – the preferred term for avoided deforestation in Indonesia) as a carbon offset suggest that even when a relatively conservative carbon price of \$US 4 per ton of CO₂ (about US \$14.70 per ton of carbon) is used, and full allowance for opportunity costs of re-locating oil palm plantation, pulpwood plantation and general informal agricultural encroachment (the major causes of forest loss) away from the natural forests is made, the benefits to retaining significant areas of forest that would be lost under a projected business-as-usual scenario exceed all costs that we could evaluate or estimate significantly. The calculations I was able to do for my assigned area of study - the Production Forests zone of the Indonesian natural forest estate (about 70% of all natural forest area) – indicated a net present value of around \$US 11 billion for the REDD alternative. I have seen figures from colleagues of mine in the World Bank for countries like Brazil which suggest similar outcomes.

For an article on this subject I wrote for the Canberra Times a few months ago, in an attempt to get some perspective on what an effectively functioning market in avoided deforestation in Indonesia might mean for Australia, I made some (admittedly very rough and ready) calculations of how much avoided deforestation in Indonesia's high biomass and carbon rich tropical forests the Australian coal burning power sector would have to buy, to bring their net emissions onto a downward trend of the order recommended in Nicholas Stern's report, or by the Allen Group and Monash University for Australia. Using the coal industry's own projection data, and official Government statistics on power use, I estimated that the sector would need to buy enough forest-based carbon to prevent the deforestation of 60,000 hectares of Indonesian tropical rainforest in the first year of the projection (2008). By 2030 (the last year to which coal industry figures

project business-as-usual coal consumption for energy in Australia), the area needed would have moved up to a formidable 1.4 million hectares. In the article, I used a price for forest based carbon of \$A20 per tonne (slightly higher than the \$US 14.70 per ton that we all agreed to use in the Indonesia project). I also assumed this price would rise to three times this amount in real terms by 2030 (as more industries in more countries compete for the available offset investments). This led me to the conclusion that a rise in electricity prices of about 5% by 2015, 10% by 2020, and 30% by 2030, would allow all the avoided deforestation offsets necessary for coal burning in Australia to be purchased over this period, if this method for offsets was persisted with throughout this whole period, and if the avoided deforestation offsets could actually be found at the scale needed.

In fact, it would be unlikely, under an emissions trading scheme in Australia, that this reliance on avoided deforestation would play out for the whole period: lower emission electrical power alternatives capable of providing baseload power, such as natural gas and the geothermal option, supplemented by solar, wind and other technologies, would become more cost competitive and therefore profitable; rising prices would bring about significant efficiencies, and reductions in the use of electrical power in Australia. My point is simply to demonstrate that, for at least an interim period, before the coal fired power sector itself has developed clean coal technologies, and low emission power alternatives are in the early stages of their expansion, the avoided deforestation option would provide a viable and affordable short to medium term offset. The Australian Government could purchase the trades via an international agreement under new UNFCCC guidelines with Indonesia, and then on-sell these to domestic emitters to the extent needed, and/or trade them internationally.

Depending on how baselines for avoided deforestation are determined in Indonesia, and what business-as usual projections of deforestation in the absence of a REDD program (and the rules for estimating these are not determined in international agreements as yet), that country would have somewhere between 700,000 and 1.2 million hectares of avoided deforestation to place on the market, annually. How much of that actually does reach the market will depend on a number of critical factors to do with monitoring, baselining, projection methodology, leakage issues and the financial instruments and rules developed for this type of trading, but I am in no doubt that by far the most critical factor – one that will provide the impetus for resolution of all these issues - will be the clear existence of a viable and significant market for avoided deforestation offsets at something like the level Indonesia will be able to provide these. Preparing itself for a REDD program will be an initially costly business for Indonesia; it could require the expenditure of up to \$1 billion, to establish the conditions, pilot studies, reforms and everything else that would be required – all before a single dollar would be gained from the market. Donor agencies have already committed funds to this task (a significant amount of the Australian Government's \$200 million for avoided deforestation could be directed to Indonesia) but there is no way they will provide the full amount required. In any event, this cannot be seen as primarily a donor project; it is a business deal that Indonesia needs to launch, with at least one reliable partner ready to purchase bona fide trades. In my view, Australia could fulfil that role, to the mutual economic and environmental benefit of both countries, and while I am no diplomat, I can't see it doing any harm to the political and diplomatic relations between the two countries either.

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9 January, 2008

